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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/678,543

10/03/2003

Pye Graham

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EXAMINER

LEWIS, RALPH A

ART UNIT

PAPER NUMBER

3732

MAIL DATE

DELIVERY MODE

05/03/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/678,543

Applicant(s)

GRAHAM ET AL.

Examiner

Ralph A. Lewis

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 February 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Rejections based on Prior Art

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fradkin (US 6,384,917).

Fradkin discloses a method for identifying tooth shades comprised of storing in a data base color coordinates (hue, saturation and intensity) for three zones of a master teeth set (note column 4, lines 26-44).

Fradkin further discloses using a ccd camera 41 to obtain an image of a patient's tooth which is fed to personal computer 45 which in turn allows the operator to control an optical system which focuses light on every point in the chosen zone thereby enabling the system to record the color information for every point selected by the operator (note column 3, lines 26-34). Fradkin doesn't explicitly state that the image from the ccd camera is displayed on the personal computer to which it is conveyed, but that is what one of ordinary skill in the art would expect and most certainly find obvious as a matter of routine. Personal computers are routinely configured to display the images that they receive. Fradkin doesn't explicitly state how the operator chooses each desired zone with the computer and electronic image, but again one of ordinary

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skill in the art would have readily found obvious the selection of a particular zone with a mouse moving a box representing the zone over the electronic image to the desired zone, particularly in light of Figure 1 which appears to suggest just such an operation. Applicant's "displaying" and "moving " steps appear to be nothing more than specifying the obvious nuts and bolts of the process disclosed by Fradkin.

The Fradkin method then generates values for the color coordinates of each identified regions and then by comparing those values to the data base of the master teeth set the proper tooth shade can be determined (note particularly column 4, lines 45-62).

In regard to claim 2, Fradkin in Figure 1 teaches choosing the upper, middle and lower regions on the teeth.

Remarks

In response to the present prior art rejection applicant argues that Fradkin determines the color of a selected region by measuring the color at a single point in the region whereas in applicant's invention "the color content of an entire region is processed before comparison to the information in the data base (see, e.g. claim 1)" and then proceeds to quote from applicant's own specification. The examiner notes that it may perhaps be a difference between the Fradkin device and applicant's disclosure, he is hard pressed to see any such distinction in the claims, nor does applicant point to any distinguishing language in the claims.

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The last four lines of claim 1, call for “generating values for certain color characteristics of the selectively identified regions of the patient’s tooth; and identifying tooth shades for the selectively identified regions of the patient’s tooth based on information in the database and the values generated for the patient’s tooth.” There is nothing in the claim language preventing the determination of a region’s color by analyzing only a single point in the region. Perhaps applicant’s unclaimed system of “ensemble processing” is more accurate in determining the color of a region than only analyzing a point in the region, but such a distinction is not claimed. The name of the game is the claim.

Action Made Final

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Any inquiry concerning this communication should be directed to **Ralph Lewis** at telephone number **(571) 272-4712**. Fax (571) 273-8300. The examiner works a compressed work schedule and is unavailable every other Friday. The examiner's supervisor, Cris Rodriguez, can be reached at (571) 272-4964.

R. Lewis
April 30, 2007



Ralph A. Lewis
Primary Examiner
Au 3732